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AN ECONOMIC HISTORY OF THE ILLINOIS AND MICHIGAN CANAL. I

I

The project for the development of a lakes-to-the-gulf water-way by means of a canal across the Chicago divide, which eventuated in the construction of the Illinois and Michigan Canal, took form in the early part of the nineteenth century. It was an integral part of the effort to reduce the burden of transportation which led to the general movement for internal improvements so characteristic of the period.

This divide had long been used as a portage, and although Gallatin's plan of 1808 did not provide for adequate connection between the Mississippi valley and the Great Lakes, still there were persons who strongly advocated this water-way.¹ However, the general interest was too weak to carry it through at the time. The War of 1812 revived the plans, and the Indian treaty of 1816, extinguishing the Indian title to the section, was the first practical step taken toward its accomplishment. Shortly after, two reports to the national government on the physiographic features of the region favored the canal,² as did Calhoun in his report as secretary of war in 1819, but it was not until a little later, when local interests were more aroused, that any real progress was made.

On the admission of Illinois to the Union the change of the boundary line to include Chicago brought the whole project within the limits of the state, thus increasing state interest and facilitating action. The second General Assembly of the state sought the aid of Congress, and asked for authority to construct the canal, a donation of public lands, and use of the 2 per cent. road fund for this purpose.³ The reply of Congress was the

¹ Notably Peter B. Porter of New York; *vide Annals of Congress*, 11th Cong., 2d session, II, pp. 1388-93; and A. B. Woodward of Michigan; *vide Nile's Register*, Vol. VI, p. 139.

² *American State Papers*, Misc., II, pp. 555-57.

³ *Illinois Senate Journal*, 2d General Assembly, pp. 103, 106.

act of March 30, 1822, authorizing construction and granting a strip of land for the canal, but only ninety feet additional on each side. The state then created a commission which made estimates of the cost varying from \$639,000 to \$713,000. Another appeal to Congress for aid failed. Hence the state in January, 1825, incorporated the Illinois and Michigan Canal Co. with \$1,000,000 capital.⁴ This company was unable to dispose of its stock, so in 1827 Congress donated the alternate sections of land in a strip five miles wide on each side of the canal route. In 1829 a second state commission was appointed to raise funds by selling land, securing a loan, or otherwise, but its efforts proved vain, and in 1833, after a lingering existence, during which its members became convinced that a railroad would be better than a canal, it was abolished. In the political campaign of 1834 the question of a canal was uppermost in the northern part of the state, and a staunch supporter of the waterway was elected governor. Finally, by act of February 10, 1835, a third canal commission was provided for and given the power to raise funds and start construction.

II

It was a Herculean task that the young state had set for itself, but, led on by that large optimism which has ever been characteristic of the continually advancing West, the people of Illinois were not dismayed by the magnitude of the undertaking. With prophetic vision they beheld the completed canal bearing on its placid waters the products of the East, the West, the North, and the South; they saw the cities, villages, farms, and factories which would ultimately come into being along its course; but they did not see so clearly the intervening difficulties, which lay, like the sunken road of Ohain, between project and accomplishment. For ten years the commercial and industrial importance of the Erie Canal had been a familiar story to the people of Illinois, and they confidently expected to see that history repeated in their own state.

The undertaking had been long delayed because of the lack of

⁴ *Laws of Illinois*, 4th General Assembly, 1st session, pp. 160-64.

funds with which to pay the cost of construction, but New York and Ohio had financed their canals by means of loans. Pennsylvania had undertaken a great system of internal improvements financed in the same way. With the land grant as a basis, and with the expected earnings of the canal as an additional security, the method of loan financiering seemed entirely feasible.⁵ It was, therefore, to this method that the state first turned, and on this method it chiefly depended to the end.

The act of February 10, 1835, which provided for the appointment of the new canal commission, authorized the governor to negotiate a loan not exceeding \$500,000 on a pledge of the canal lands and tolls and "such other means as the government of the United States may hereafter give toward the construction of the Illinois and Michigan Canal."⁶ As evidences of indebtedness the state issued certificates known as Illinois and Michigan Canal Stock, drawing 5 per cent. interest and payable at the option of the state any time after 1860.⁷ The proceeds of this loan as well as those from the sale of lands and lots, and from the later operation of the canal itself, when completed, were to constitute a canal fund intended entirely for the construction of the canal and the payment of interest on the canal debt.

Correspondence was at once entered into with New York financiers, and ex-Governor Edward Coles was appointed the special representative of the state to visit the eastern cities and negotiate the loan.⁸ But his efforts with the financiers of New York and Philadelphia and with the agents of the Rothschilds proved entirely futile. Basing their opinions on the experience of the Erie Canal, some of the New York bankers were convinced, however, that the loan would eventually be a safe one because, by giving to Illinois both an eastern and a southern seaport con-

⁵ Report of the Senate Committee on Internal Improvements, in *Illinois Senate Journal*, 1834-35, pp. 97-99.

⁶ The members of the General Assembly, as well as Governor Duncan, believed that if the land grant already made should prove inadequate to pay for the construction of the canal, the federal government would supplement it by further grants.

⁷ *Laws of Illinois*, 1834-35, pp. 222, 223.

⁸ *Illinois House Journal*, 1835-36, pp. 12, 13.

nection, the canal would lead to such an economic development of the region as greatly to enhance the value of the canal lands,⁹ but in the meantime no sufficient provision was made for the payment of the interest if the sale of lands and lots should fail to provide the necessary funds. Furthermore, as interest rates in this country were at that time higher than 5 per cent., it would be necessary to dispose of the canal stocks in Europe, and the European financiers were not disposed to accept loans based on wild lands in the United States.¹⁰ Other states had pledged the faith of the state in support of the loans which they had raised for similar purposes, and the bankers who had taken up their stocks would not accept those of Illinois on any other terms.¹¹

As a result of his experience and the conferences held with the financiers, Coles became convinced that the loan could be raised only on a pledge of the faith of the state for the payment of the principal and the interest.¹² Having been brought to the same conclusion, Governor Duncan urgently recommended to the General Assembly that such a step be taken. He the more readily made the recommendation because he was convinced that in no case would the burden of the debt fall on the state. Basing his opinion on the prices received by the federal government at the sale of its alternate sections of land at Chicago in the previous June, he considered the market value of the canal lands ample to reimburse the state.¹³ He expected the value of the land would continually advance with the progress of the work, and ultimately bear the entire cost of the construction. Furthermore, having but recently left the halls of Congress, he thought he knew the

⁹ Letter of J. Delafield, president of the Phoenix Bank of New York, to Edward Coles, April 20, 1835, *Illinois House Journal*, 1835-36, pp. 19-21.

¹⁰ Letter of Edward Coles to Governor Duncan, dated at Philadelphia, April 28, 1835, *Illinois House Journal*, 1835-36, pp. 14-18.

¹⁴ Letter of J. Delafield to Edward Coles, dated New York, April 20, 1835, *Illinois House Journal*, 1835-36, pp. 19-21.

¹² Letter of Edward Coles to Governor Duncan, in *Illinois House Journal*, 1835-36, pp. 14-18. *Vide* also letter of Charles Butler to Edward Coles, *ibid.*, 1835-36, pp. 21, 22.

¹³ The estimates of the market value of the land at that time varied from \$1,000,000 to \$3,000,000, but probably averaged about \$2,000,000.

temper of that body well enough safely to count on an additional grant of land if it should be found that the grant already made was not sufficient to cover the expense of constructing the canal.¹⁴ The recommendation met with a ready response on the part of the General Assembly.¹⁵ Accordingly, on January 9, 1836, a new act was passed reorganizing the canal commission and pledging the credit and faith of the state to the payment of the principal and interest of the loan.¹⁶

A new commission was appointed at once and used every effort to get the canal under way at the earliest possible moment, believing that the more actively the work was pushed, the easier would be the task of financing it.¹⁷ But the fact soon became apparent to the commissioners that the magnitude of the undertaking had been generally misunderstood. James M. Bucklin's estimate of \$4,043,086.50 as the cost of a lake-fed canal, although, at the time made, regarded by the friends of the project as excessive, was now found to be entirely too low for the construction of a canal of the dimensions which its place in a great system of waterways and its probable future traffic would demand.¹⁸ Therefore, although the initial expense of the canal would be greatly increased, the commissioners deter-

¹⁴ Governor Duncan's message, December 8, 1835, *Illinois Senate Journal*, 1835-36, p. 7.

¹⁵ The Senate Committee on Internal Improvements estimated the value of the canal property as follows:

About 250 lots in Chicago.....	\$ 312,500.00
250 lots in Ottawa.....	50,000.00
277,383 acres of land (at \$5 per acre).....	1,386,915.00
Fractional section 15 adjoining Chicago and containing about 160 acres	160,000.00

Estimated total value\$1,909,415.00

The committee believed that by adding the value of the water power which would be developed, the suggested plan of financiering would be entirely practicable.—*Illinois Senate Journal*, 1835-36, p. 101.

¹⁶ *Laws of Illinois*, 1836, pp. 145-54.

¹⁷ The commission was composed of General William F. Thornton, Colonel Gurdon S. Hubbard and Colonel William B. Archer.

¹⁸ Bucklin's estimate had been for a canal forty-five feet wide at the water level, thirty feet wide at the bottom, and having a depth of four feet of water.

mined, on the advice of the chief engineer, William Gooding,¹⁹ to adopt the plan of a lake-fed canal sixty feet wide at the water level, thirty-six feet wide at the bottom, and having a minimum depth of six feet of water.²⁰ They adopted this plan because they were convinced that the increased utility of the larger canal would more than counterbalance the increased cost of construction, and because they agreed with Governor Duncan that to construct a canal adequate to future needs was preferable to an enlargement after it had proven inadequate, and was also cheaper in the end.²¹ The work was laid out in three divisions, known as the Summit division, the Middle division, and the Western division, and these were subdivided into sections of varying length.²² Deeming it good policy to begin operations in the vicinity of Chicago, the commissioners, on June 6, 1836, contracted for the construction of a portion of the Summit division.²³ It had been intended to contract for the entire division, but, on account of the abnormally high wages of labor and prices of provisions and supplies, the bids were almost uniformly above the estimates of the engineers, and on some of the sections the discrepancy between the estimates and the bids was so great that the commissioners refused to accept them.²⁴ It was hoped that

¹⁹ As a former engineer on the Erie Canal, Gooding was aware that New York had made the mistake of constructing a canal inadequate to its rapidly growing traffic, and desired to prevent the same mistake being made by Illinois.

²⁰ *Report of the Board of Commissioners of the Illinois and Michigan Canal*, 1836, p. 8.

²¹ Governor Duncan's inaugural address, *Illinois Senate Journal*, 1834-35, p. 26.

²² The seven miles of earth excavation from the Chicago River to the "Point of Oaks" were divided into half-mile sections. From that point to the termination of the Summit division there were twenty-four sections of thirty chains each.

²³ The act of January 9, 1836, required the commissioners to hold a sale of lots at Chicago on June 20, of that year, and it was naturally assumed that they would bring better prices if active preparations for the construction of the canal were being carried on in that vicinity.

²⁴ Laborer's wages were from twenty to thirty dollars a month and board. Pork at Chicago was from \$20 to \$30 a barrel; flour from \$9 to \$12; salt from \$12 to \$15; oats and potatoes, seventy-five cents a bushel; and other articles of consumption commanded similar prices.—Davidson and Stuve, *History of Illinois*, p. 479.

the experience of the contractors whose bids were accepted would demonstrate the possibility of carrying on the work at the lower figures, and that, by the time they had gotten the work under way, the prices of labor and materials would decline sufficiently so the remaining sections could be profitably taken at the estimates of the engineers, or even below them. But these hopes were doomed to disappointment. Some of those whose bids had been accepted found it necessary to abandon their undertakings, although such an act involved the forfeiture of a penal bond to the extent of 5 per cent. of the amount of the original contract.²⁵

The work of constructing the canal was formally begun with imposing ceremonies, and a great celebration at Canalport on the Chicago River, July 4, 1836. But not much progress was made during the summer and autumn. Much of the time was consumed in preliminary preparations such as constructing roads across the marsh on the eastern sections, building houses for the laborers, and procuring machinery and other supplies.²⁶ Being desirous of extending the work as rapidly as possible, on October 20 the commissioners let the contracts for twelve sections on the Western division, including the steamboat basin at La Salle.²⁷ Preliminary operations were accordingly begun at the western extremity of the canal as well as on the Summit level. Owing to the scarcity of laborers and to floods in the Des Plaines valley, however, but little progress was made on either portion of the work during the autumn and winter months.²⁸

The commissioners expected that the work would really begin on a large scale with the opening of the following season, but in this expectation they were disappointed. In the first place, the continued scarcity of laborers along the line of the canal seriously retarded the progress of the work till well on toward the close of the summer, by which time they had begun to arrive

²⁵ *Report of the Board of Canal Commissioners*, 1836, pp. 10, 11.

²⁶ *Ibid.*, 1838, p. 5.

²⁷ *Ibid.*, 1836, p. 11.

²⁸ Engineer's report, *Illinois Senate Journal*, 1837, p. 28. With the hope of drawing to the Illinois and Michigan Canal laborers from the eastern states, advertisements were inserted in the eastern papers offering wages of from \$20 to \$26 a month.—*Niles' Register*, Vol. 50, p. 388.

in considerable numbers from the eastern states and Canada.²⁹ In the second place, a threatened change of the plan for the construction of the canal retarded the letting of further contracts, and, consequently, delayed the preparation for pushing the work so soon as a sufficient force of laborers could be secured.

The plan adopted by the commissioners was attacked by the House Committee on Internal Improvements as entirely impracticable because beyond the financial ability of the state to accomplish. The committee claimed that the estimates of the engineers were untrustworthy because, first, they had omitted entirely several important items of expense; and, secondly, they had underestimated the cost of others.³⁰ By the estimates of the committee, the canal would cost \$13,253,875.15, or nearly \$4,600,000.00 more than had been anticipated.³¹ It proposed, therefore, that the "shallow cut" plan be adopted on the Summit level, and that the canal should terminate at Lake Joliet, slack water navigation being provided from that point by means of locks and dams in the Des Plaines River. The result of the attack on the plan of the commissioners was the reorganization of the canal board and the appointment of Benjamin Wright, of New York, as a special engineer to re-examine the route of the canal and give to the General Assembly an expert opinion on the relative feasibility of the two plans.³² Wright's report, made October 23, 1837, strongly

²⁹ *Report of Board of Canal Commissioners*, 1838, p. 6.

³⁰ The total cost as estimated by the canal engineers was \$8,654,337.51.—*The Seventh Annual Report of the Board of Canal Commissioners*, p. 73.

³¹ The engineers had estimated the excavation at $33 \frac{35}{100}$ cents a cubic yard and stone excavation at $\$1.54 \frac{8}{100}$. The committee estimated earth excavation at 40 cents a cubic yard; stone, one-third at $\$1.24 \frac{8}{100}$, and two-thirds at $\$2.54 \frac{8}{100}$. It also added $7\frac{1}{2}$ miles of slope wall, 18 foot cuttings, at \$4.00 a perch—\$519,540.00; a towing path 26 miles long, 12 feet wide, and 8 feet deep, one-half stone at \$1.25, and one-half earth at 25 cents per cubic yard—\$366,083.00; and a guard lock at the junction of the deep cut with the Chicago River at a cost of \$45,000.00. In addition to these items the committee estimated the cost of contingencies and superintendence at \$1,329,451.48; and improvement of five miles of the Chicago River at \$16,565.75. For the entire argument of the committee, *vide Illinois House Journal*, 1836-37, pp. 326-47.

³² The new board consisted of General W. F. Thornton, General Jacob Fry, and Colonel J. A. McClelland. Under the act of March 2, 1837, the board

supported the plan adopted by the commissioners, and urgently recommended the completion of the work on that plan.³³ This report was accepted as removing all doubt of the continuance of the work on the plan adopted.

In the third place, the financial situation in the early part of the summer of 1837 tended still further to embarrass the activities of the commissioners and the progress of the work. The preceding year had been a successful one for the canal finances. Under the conditions established by the act of January 9, 1836, the canal bonds had become marketable securities. Governor Duncan easily negotiated the authorized loan in New York at a premium of 5 per cent.³⁴ The sales of lots had also resulted very differently from those of six years before. The real-estate market at Chicago had been extremely active for the past two years, and the prospect of the early construction of the canal gave it a still firmer tone.³⁵ Under the favorable market conditions, the commissioners were able to dispose of 375 lots in Chicago in June, 1836, at the total price of \$1,355,755,³⁶ and

became elective by the General Assembly, and subject to its control, instead of receiving its appointment from the governor and being subject to his control, as its predecessor had been.

³³ The following extract from Wright's report indicates his opinion of the importance of the work as planned by the commissioners: "The Illinois and Michigan Canal, as now projected, and under construction, may truly be considered as one of the greatest and most important in its consequences of any work of any age or nation. In looking over this connection between the Lakes and the Mississippi River, it is no doubt superior in its advantages to any other which can ever be formed. It is the shortest artificial work, with the least lockage. The climate, soil, and the capability of productions of the country which will be benefited by the construction of this work, will certainly equal, if they do not exceed, any other part of the United States; and when I view it in this light, I think it justly merits to be executed upon the best and most permanent plan, and will justify by its revenue any outlay which may be put upon it in reason."—*Report of the Board of Canal Commissioners*, 1838, p. 80.

³⁴ At first he refused to sell more than \$100,000 of the bonds on the terms offered, thinking 5 per cent. too low a premium; but obtaining no better offer he sold the remaining \$400,000 in 1837.—*Illinois House Journal*, 1836-37, p. 15.

³⁵ Wright's "*Chicago*," pp. 4, 5.

³⁶ Four hundred and fifteen lots were sold, but forty of them were forfeited by the purchasers' failing to make the first payment.—*Report of the Board of Canal Commissioners*, 1836, p. 12.

three months later, September 26, they sold at Ottawa seventy-eight lots for \$21,358, an excess of more than \$2,000 above the appraised value. In accordance with the provisions of the act authorizing these sales, one-fourth of the proceeds and the interest on the remaining three-fourths were paid to the treasurer of the canal fund. With this sum together with the second instalments which would fall due respectively in June and September, 1837, and with the proceeds of the loans which the governor had been authorized to negotiate,³⁷ it was confidently expected that the work could be readily maintained during the year.³⁸

The work of the season of 1837 had but fairly gotten under way, however, when the panic of that year swept over the state. As a means of self-protection the State Bank of Illinois suspended specie payments on May 24. At that time it held \$390,-834.89 of canal funds. Moreover, within the next month the second instalment of the payments on the Chicago lots, amounting to something like \$375,000, would fall due, and unless other provisions were made for the disposal of it, it would become a deposit in the Chicago branch of the State Bank. The situation presented a grave danger to the prosecution of the work on the canal. Under the law of Illinois, if the suspension of specie payments should continue for more than sixty days, the bank would forfeit its charter.³⁹ Such an event would tie up the canal funds during an indefinite period of liquidation. On the other hand, if the bank were forced to resume specie payments it would soon be drained of its specie and ultimately compelled to pay its creditors in depreciated currency. In the first case the

³⁷ By the act of March 2, 1837, the governor had been authorized to negotiate a second loan for \$500,000.

³⁸ On May 4, 1837, the treasurer of the canal fund reported the available funds for the work of the year as follows:

Cash in branch bank at Chicago.....	\$297,081.53
Loan to be negotiated by the Governor	500,000.00
Second instalment of payments on Chicago and Ottawa lots.....	385,591.39

Total	\$1,182,672.92
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Report of the Treasurer of the Illinois and Michigan Canal, 1837; also published in the Illinois Senate Journal, 1837, p. 24.

³⁹ Law of February 12, 1835, supplemented by an act of January 18, 1836.

work on the canal would have to stop until such time as the state could secure other funds with which to carry it on. In the second case, the cost to the state would be still further enhanced by the depreciation of the currency with which it would have to pay its creditors and the consequent higher prices it would be compelled to pay for the construction of the portions of the work not already under contract, to say nothing of the possibility of driving the contractors then at work into bankruptcy. After a careful canvass of the situation, Governor Duncan called the General Assembly to meet in special session on July 10, and it legalized an indefinite suspension of specie payments.⁴⁰

By the autumn of 1837, however, work on the canal had assumed the proportions which the commissioners had anticipated several months earlier.⁴¹ And, although the sudden increase of a transient population and the consequent enlarged demand for materials and provisions in an undeveloped region added materially to the financial burdens of the contractors, the work was carried forward with such vigor that at the close of Governor Duncan's administration in December, 1838, the entire line of the canal was under contract except about twenty-three miles of the Middle division between Dresden and Marseilles.⁴²

⁴⁰ At the time of suspension the State Bank was indebted to the state as follows:

Capital stock held by state.....	\$100,000.00
Agreement to pay Wiggins loan.....	100,000.00
State deposits held.....	388,669.51
Canal funds held in Chicago branch.....	285,834.89
Canal fund on N. Y. loan and premium.....	105,000.00

Total\$979,504.40

Vide Governor Duncan's message, *Senate Journal*, Special Session, 1837, p. 9.

⁴¹ The expenditures for work on the canal were \$70,902.30 from December 1, 1836, to June 1, 1837. The expenditures for the year 1837 were \$350,649.90. Evidently, more than \$280,000.00 of this sum was expended after June 1.

⁴² Enhanced prices of supplies resulting from the greatly increased demand and the difficulty of supplying machinery and tools with which to utilize to best advantage the greater labor supply proved so great a financial burden that several contractors were forced to abandon their contracts. In order to prevent others from pursuing the same course, the commissioners established a store at Lockport from which they furnished to the contractors such supplies as were not obtainable in the region of the canal, and deducted the price of these supplies from the contractors' monthly estimates. The result was so satis-

Several sections of the Western division were completed and others far advanced.⁴³

Henceforth the greatest problem of the commissioners was that of supplying sufficient funds to enable the contractors to continue the work and maintain the labor that was available. The two loans authorized by the acts of January 9, 1836, and March 2, 1837, had yielded a revenue of \$1,036,211.67.⁴⁴ Up to December 3, 1838, \$444,292.00 had been received from the sale of canal lands and lots. Thus far the funds received from these sources had proven sufficient to maintain the work, but it became evident that provision must be made soon for further available resources if the work was to continue. There had already been paid out for work done, \$1,434,838.02.⁴⁵ The funds in the treasury were diminishing and the monthly expenditures on the canal were rapidly increasing.⁴⁶ A loan of \$4,000,000, bearing 6 per cent. interest, was therefore authorized,⁴⁷ and ex-Governor John Reynolds and Hon. R. M. Young, at that time a United States senator from Illinois, were appointed special agents of the state to negotiate the loan.

In April, 1839, Mr. Reynolds negotiated two loans. The factory that no more contracts were abandoned, and those that had been given up were re-let to the contractors who had continued at work.—*Report of the Board of Commissioners of the Illinois and Michigan Canal*, 1836, p. 6.

⁴³ Governor Duncan's message, December 4, 1838; *Illinois House Journal*, 1838-39, pp. 13, 14.

⁴⁴ Each act authorized a loan of \$500,000.00. The first loan was placed in two instalments of \$100,000.00, and \$400,000.00 respectively, and at a premium of 5 per cent. The second was placed at par. The proceeds of the two were as follows:

\$500,000 at 5 per cent. premium.....	\$525,000.00
500,000 at par.	500,000.00
	<hr/>
	\$1,025,000.00
Interest on deposits.....	11,211.67
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Aggregate proceeds	\$1,036,211.67

Report of Board of Canal Commissioners, 1838, p. 53.

⁴⁵ *Report of the Board of the Canal Commissioners*, 1838, p. 61.

⁴⁶ The increase of expenditures is roughly indicated by the following statement of annual payments for work done on the canal: 1836, \$39,260.58; 1837, \$350,649.90; 1838, \$911,902.40.

⁴⁷ By act of February 23, 1839.

first for \$300,000 was placed with John Delafield, president of the Phoenix Bank of New York. By the terms of this loan, however, it would not afford much financial aid to the work on the canal till late in the year.⁴⁸ The second gave more immediate results. It was for \$1,000,000, and was placed with Thomas Dunlap, president of the United States Bank of Philadelphia.⁴⁹ By agreement, the proceeds of this loan were paid in monthly instalments of \$100,000 each. This sum, however, was not sufficient to meet the demands on the canal funds. By the first of May the monthly expenditures had reached the neighborhood of \$150,000, and on the first of June the canal funds showed a deficit of \$208,000.⁵⁰ To meet this deficit Governor Carlin placed \$500,000 of state bonds in the hands of General W. F. Thornton, president of the Board of Canal Commissioners, for sale in the local market. Of these bonds, General Thornton sold \$100,000 in Chicago at a premium of 1 per cent., but was unable to dispose of the remainder on satisfactory terms.⁵¹ Arrangements were therefore made with the State Bank of Illinois to furnish the state sufficient funds, supplementary to the instalments from the United States Bank, to prevent the necessity of curtailment in the forces on the canal during the remainder of the year.

The most pressing and immediate needs having been provided for, Reynolds and Young endeavored to float the remainder of the authorized loan in London, but the condition of the money market made it impossible to sell the bonds at par.⁵² After considerable negotiation, they placed \$1,000,000 of sterling bonds drawing 6 per cent. interest, with the brokerage firm of John Wright & Co. for sale at a minimum of 91 per cent. of par value, and with the understanding that these bonds should

⁴⁸ By terms of the contract, \$50,000 was to be paid within fifteen days after the delivery of the bonds, another \$50,000 on August 1, and \$50,000 on the first of each month from October to January inclusive.

⁴⁹ Governor Carlin's message, December 10, 1839, *Illinois House Journal*, Special Session, 1839-40, p. 19. Also, Carlin's letter to Ford relative to the sale of bonds, etc., *Illinois Senate Reports*, 1842-43, p. 172.

⁵⁰ Governor Carlin's message, December 10, 1839.

⁵¹ *Ibid.*

⁵² *Ibid.*

be replaced by others of like amount and rate but bearing interest payable semi-annually instead of annually as these bonds did.⁵³ On this deposit of bonds, Wright & Co. advanced £30,000 which, by the terms of the contract, yielded the canal funds \$145,188.⁵⁴ The firm, however, failed before the delivery of the new bonds, and no further funds were available from this source.

At the beginning of the year 1840 the canal treasury was once again in a depleted condition, and on the first of March the commissioners were forced to the expedient of issuing to the contractors checks bearing 6 per cent. interest and payable at such time as the necessary funds should be provided.⁵⁵ An effort was made to replenish the treasury by a further sale of bonds, and in order to increase their marketability the act of February 1, 1840, directed the commissioners to sell enough lands and lots to pay the interest on the canal loans. But sales extending over a period from June 30 to July 13 yielded only \$7,387.06, and this sum was principally paid in canal scrip.⁵⁶ Finding it impossible to continue the sale without such a reduction in the price of the land as would, in their judgment, prejudice the interests of the state, the commissioners abandoned the effort to raise funds by this means.⁵⁷ At this juncture the contractors held a meeting at Lockport and proposed to take \$1,000,000 of the authorized bonds at par and bear the discount at which they would have to be sold.⁵⁸ The proposal was

⁵³ Carlin's letter to Ford relative to the sale of bonds, etc., *Illinois Senate Reports*, 1842-43, p. 172. The semi-annual payment of interest was authorized by the act of February 1, 1840.

⁵⁴ Message of Governor Carlin, December 7, 1842.

⁵⁵ *Seventh Annual Report of the Canal Commissioners*, p. 112.

⁵⁶ The sales amounted to \$60,775.57, but by the provision of the act of February 1, 1840, only one-fourth of the purchase price of the timber land was payable in cash and the remainder in three annual instalments, while only one-tenth of the price of the prairie land was payable at the time of the purchase and the remainder in twenty years. The deferred payments drew interest at the rate of 6 per cent.

⁵⁷ *Fifth Annual Report of the Canal Commissioners*, p. 9.

⁵⁸ General W. F. Thornton, president of the Board of Canal Commissioners, and W. B. Ogden and George Barnett, contractors, were appointed a special committee to carry on the negotiations with Governor Carlin.

accepted and General Thornton, on behalf of the purchasers, sold the bonds to Magniac, Smith & Co. of London, at a discount of 15 per cent.⁵⁹ This act of the contractors made it possible to continue the work for several months longer, but with a somewhat diminished labor force.⁶⁰

Although the canal treasury had again been drained of its funds by March 1, 1841, the contractors continued their work and their active preparations for the following season with the apparent hope that the General Assembly would be able successfully to solve the financial problem to which it had addressed itself throughout the winter. But the legislators proved unequal to the task. The large sales of state bonds within the preceding decade had surfeited a depressed market with that particular kind of security. This fact had been painfully evident for the past two years. It was likewise true that Illinois had done her part in bringing about this condition of affairs. In addition to the canal bonds the state had already placed upon the market, in her efforts to finance an elaborate scheme of internal improvements, evidences of indebtedness of more than \$5,600,000.⁶¹ It was with the greatest difficulty that the state was able to pay the interest on its debts on January 1, 1841. Under such circumstances a new loan could be floated only at an enormous discount. With property values depressed and the people clamoring for reduced taxation, the General Assembly was unable to do more than to provide for an additional tax of ten cents on the \$100 worth of property to be set apart exclusively as an "interest tax;" establish a minimum taxable valuation of three dollars an acre on all lands subject to taxation in the state;⁶² and authorize the sale of enough bonds at whatever they would bring

⁵⁹ *Seventh Annual Report of the Canal Commissioners*, p. 113.

⁶⁰ The amount paid for work in 1839 was \$1,479,907.58; for 1840, \$1,117,702.30; and for 1841, \$644,875.94. Between March 1 and November 1, 1840, the payments were \$832,888.20, and between November 1, 1840, and March 1, 1841, they were \$280,940.46.—*Seventh Annual Report of the Canal Commissioners*, pp. 65, 113.

⁶¹ On December 7, 1842, the internal improvement debt was \$5,614,196.94. As work on these improvements had been stopped in 1840, the debt had not increased much after that date.—*Illinois Senate Reports*, 1842-43, p. 7.

⁶² By the act of February 21, 1841.

in the market to meet the interest on the public debt for the next two years.⁶³

The failure of the General Assembly to provide further means for the maintenance of the work was interpreted as the abandonment of the canal to its fate. As many of the contractors as were able to abandon their work without too heavy financial losses did so. Others continued for a time, but reduced their forces as rapidly as conditions would warrant. There were only two possible sources of payment to the contractors, namely, state bonds and warrants drawn against a future canal fund. Both of these methods were resorted to. Such contractors as were able to meet their own expenses and wait for their pay accepted the bonds until the depreciation became so great as to render this means of payment impracticable.⁶⁴ The alternate method of payment was introduced by the commissioners in May, 1841, in order to relieve the embarrassments of those contractors whose finances did not enable them to meet their accruing obligations. To the extent of the amount due them, the contractors were permitted to draw orders in favor of their creditors against the commissioners, which orders became negotiable after having been formally accepted and recorded by the secretary of the board.⁶⁵ For a time these orders served as currency along the canal. But, although receivable in payment for canal lands at the sale to be held in November, 1841, the issue soon exceeded the demand and depreciation began. Naturally, the depreciation of this medium of exchange soon put a stop to that method of payment and all work on the canal was at an end except in the case of a few contractors who were willing to bear their own burdens and await a better day for their compensation.⁶⁶

⁶³ In order to raise the necessary funds to pay the interest on the state debt July 1, 1841, \$804,000 in interest-bearing state bonds were hypothecated with Macallister and Stebbins of New York as a guarantee of a loan of \$321,600. From this time on no more interest was paid on the state debt till the trustees took charge of the canal in 1845.

⁶⁴ In this way \$197,000 was paid in the latter part of 1841 and early part of 1842.—*Illinois Senate Reports*, 1842-43, pp. 16, 172.

⁶⁵ *Seventh Annual Report of the Commissioners of the Illinois and Michigan Canal*, p. 115.

⁶⁶ *Illinois Senate Reports*, 1842-43, p. 16. By the act of February 21, 1843,

After the failure of the State Bank in February, 1842, the financial affairs of the state seemed to be in a hopeless condition. The state debt was nearing the \$14,000,000 mark, and was increasing at the rate of \$830,000 a year from the one item of accumulating interest.⁶⁷ The credit of the state had sunk so low that in June its obligations sold at public auction in Chicago at from eighteen and one-fourth cents to twenty-four cents on the dollar, while the bills of the defunct State Bank brought thirty-eight and one-fourth cents.⁶⁸ There were not lacking those who openly advocated a policy of repudiation.

In this crisis the canal seemed the only hope of the state.⁶⁹ A completed canal would aid the state finances both directly and indirectly. It would give direct aid by yielding a revenue which would offset a portion of the interest charges which the state was then unable to meet. Indirectly it would bring larger revenues to the treasury by increasing the basis of taxation, first, through the raising of property values by the capitalization of the diminution in transportation charges; and, secondly, by making the state a more attractive place for settlement and investment through this provision for lightening its financial burdens, which would tend to draw the population and capital that naturally shun a debt-ridden community with its exorbitant taxes. The increased land values resulting from the opening of the canal would also enable the state materially to diminish the burden of the debt by liquidating a large portion of it through the sale of canal lands. In short, the difference between a completed and an uncompleted canal meant the difference between a solvent and an insolvent state. These facts were provision was made for the payment of damages sustained by the suspension of work, and by the act of March 3, 1843, all claims against the canal were to be investigated and, when approved, they and the accrued interest should be charged against the fund of \$230,000 appropriated for settlement with the contractors.

⁶⁷ On December 1, 1842, the debt amounted to \$13,836,379.65, and the interest for the year was \$830,182.77.—*Illinois Senate Reports*, 1842-43, p. 7.

⁶⁸ *Chicago Democrat*, June 8, 1842.

⁶⁹ Report of the Senate Committee on Canal and Canal Lands, *Illinois Senate Reports*, 1842-43, pp. 90, 91; also Report of the House Committee on Finance, *Illinois House Reports*, 1842-43, pp. 6, 7.

clearly enough perceived,⁷⁰ and there was no lack of desire on the part of the state officials to bring the work to its final consummation; but that would involve an additional expenditure of more than \$3,000,000, and in the insolvent condition of the state the raising of such a sum was clearly impossible.⁷¹

In this extremity the friends of the canal bethought them of the old "shallow cut" plan. It was estimated that \$1,600,000 would suffice to complete the work on this plan, and it was deemed practicable to raise this sum on a pledge of the canal and the canal lands and revenues. The principal holders of canal bonds in New York also looked upon the plan as feasible.⁷² Consequently, by the act of February 21, 1843, the governor was authorized to negotiate a loan for the amount and to secure its payment by a deed of trust. The canal and all its property were to be turned over to three trustees, two of whom should be chosen by the subscribers to the new loan and one appointed by the governor. These trustees were authorized to hold and manage the canal for the benefit of the creditors,⁷³ under such restrictions as would safeguard the interests of the state.⁷⁴

Governor Ford appointed Charles Oakley and Michael Ryan

⁷⁰ *Illinois Senate Reports*, 1842-43, pp. 90, 91.

⁷¹ William Gooding, the chief engineer of the canal, estimated that the sum of \$3,098,169.29 would be required to complete the work on the plan on which it was being constructed.—*Seventh Annual Report of the Canal Commissioners*, p. 66.

⁷² Justus Butterfield, of Chicago, is said to have first suggested the plan to Arthur Bronson, of New York, one of the large holders of canal bonds. Whether this statement be true or not, the friends of the canal eagerly took up the idea. In the summer of 1842 Michael Ryan, chairman of the Committee on Canal and Canal Lands in the Illinois Senate, visited New York and discussed the plan with the leading bond-holders, who took kindly to the idea.

⁷³ In the interest of the subscribers to the new loan the act directed the disbursement of the income of the canal, after the payment of the incidental expenses, as follows: first, interest on the loan; secondly, interest on other canal bonds held by subscribers to the loan; thirdly, interest on canal bonds held by non-subscribing bond-holders; and fourthly, payment of the principal of the loan.

⁷⁴ Among the important provisions of the act safeguarding the interests of the state were those limiting the conditions of the sale or lease of the lands, lots, and water power of the canal. For the provisions of the act in full, see *The Laws of Illinois*, 1834, pp. 54-61.

as agents to negotiate the new loan. Having first received assurances that the American creditors would subscribe their proportion, Oakley and Ryan hastened to Europe; but the foreign creditors were less inclined to take a favorable view of the proposed loan than those in America had been.⁷⁵ However, it was finally arranged that Abbott Lawrence, Thomas H. Ward, and William Sturgis, of Boston, should designate two competent men to examine the conditions of the work and report to the creditors the value of the property and the amount of debt, including accrued interest, charged against it. This service was performed by ex-Governor John Davis, of Massachusetts, and Captain William H. Swift, of the engineering corps of the United States Army. During the winter of 1843-44 these men made a personal investigation of the condition and the possibilities of the canal.⁷⁶ Their report to the creditors, dated March 1, 1844, was entirely confirmatory of the reports of Ryan and Oakley. They found that on January 1, 1844, the total canal debt was \$5,390,697.57. Offsetting against this debt the sum of \$150,209.83 redeemed and in the contingent fund, and \$393,034.91 of securities held against canal lands sold, the net debt was found to be \$4,847,402.83.⁷⁷ On the side of assets the state could offer besides the canal 230,476 acres of land which Davis and Swift estimated would be worth ten dollars an acre at the completion of the canal, and 3,491 lots in the cities and towns of Chicago, Lockport, Ottawa, and La Salle, valued at \$1,900,000. The canal itself was considered to be worth \$5,000,000. In addition to this \$9,204,670 of physical property, it was estimated that the rentals for water power would aggregate from \$75,000 to \$100,000 a year, and that the tolls for the second

⁷⁵ The attitude of the European creditors in 1843 was fully set forth in a letter of Baring Brothers & Co. to Charles Oakley, October 18, 1844, which was later published in the *Illinois and Michigan Canal Documents*, pp. 24-29. Also in a letter of Charles Oakley to J. S. Zieber, dated at London, July 18, 1843, and published in the *Chicago Democrat*, August 23, 1843.

⁷⁶ *Illinois House Reports*, 1845, p. 315.

⁷⁷ Davis and Swift's *Report of the Illinois and Michigan Canal*, 1844, pp. 13, 14. There are some slight discrepancies in the figures in the report, but they seem to be due to either clerical or typographical errors and do not affect its importance materially.

year of the operation of the canal would reach \$363,865.25.⁷⁸ In view of these facts the report recommended the acceptance of the loan as an entirely safe financial proposition.

The experience of European holders of American internal improvement bonds, however, had not been a pleasant one. For the most part they had been unable to get interest on their bonds, and these were consequently greatly depreciated in value. But the holders of Illinois and Michigan canal bonds were reassured by the correspondence of the report with the assertion of Ryan and Oakley and more particularly by the personal statements of ex-Governor Davis who visited London in the summer of 1844 on invitation of Baring Brothers & Co. and Magniac, Jardine & Co., representing the creditors. As a result of the report and of these conferences, the European creditors agreed to take the full amount of the new bond issue apportioned to them on the basis of their holdings of the earlier issues,⁷⁹ provided the state would restore the interest tax which had been repealed in 1843.⁸⁰ The state readily complied with this very reasonable condition.⁸¹ By the act of March 1, 1845, provision was made for an interest tax of one and one-half mills on each dollar of property values.

In the meantime the creditors had subscribed the remainder of the loan and elected Captain Swift, of Washington, and David Leavitt, of New York, as trustees; and the governor had

⁷⁸ Davis and Swift's *Report of the Illinois and Michigan Canal*, 1844, p. 42. This estimate of the earning capacity of the canal was far too high, as shown by the earnings when completed. The tolls for the second year of operation were \$118,375.

⁷⁹ It was expected that the holders of earlier issues would subscribe to this one to the extent of 32 per cent. of their holdings. This would enable them to register their old bonds under the act of February 21, 1843, thereby making them a sort of second mortgage on the canal and its property and revenues.

⁸⁰ *Illinois Senate Reports*, 1844, pp. 89-96.

⁸¹ That the land owners were not all averse to such a tax is shown by the fact that on January 18, 1844, John Wentworth sent from Washington to the governor of Illinois a petition from holders of Illinois land to the amount of nearly \$1,000,000 asking that the property in the state be taxed to raise funds to pay the interest on the state debt, reasoning that an improvement in the financial condition of the state would react on property values.—Wentworth's letter in the *Chicago Democrat*, January 31, 1844.

appointed General Jacob Fry as the state member. In June these trustees assumed the trust and began active preparations for resuming the work on the canal. On June 21 they called for the first instalment of the new loan to be paid on September 20 following.⁸²

While the arrival of the funds was awaited, the necessary preparations for the resumption of work were under way. In accordance with estimates submitted by Charles B. Fisk and William Gooding, the former contractors were allotted the work on their old sections,⁸³ July 22, and on August 18 those sections not pre-empted by the former contractors were let to the "lowest responsible bidder."⁸⁴ These contracts evidenced the change in the economic condition of the region since 1836. In that year the country generally was on the crest of the wave of prosperity. High prices prevailed. This condition was magnified in the region of the canal with its suddenly acquired population and its undeveloped resources, and the necessity of importing all needed supplies. In 1845 the country was slowly recovering from a period of industrial depression. Prices were relatively low. Food supplies were particularly cheap in the region of the canal, where they were now produced in abundance.⁸⁵ As a consequence, although the new estimates were far

⁸² Captain Swift's *Report to the Creditors*, 1849, p. 5. Also, the *Chicago Democrat*, June 25, 1845.

⁸³ Section seventeen of the act of February 21, 1843, provided that on resumption of work on the canal former contractors should have priority of right in securing the contracts on their old sections, but on an estimate to be made by the chief engineer of the Board of Trustees.

⁸⁴ *Report of the Canal Trustees*, 1845, p. 3.

⁸⁵ The following comparison of prices was made by Davis and Swift during their investigation of the canal:

	Cost in 1836	Cost in 1843
Labor of man per month (average)	\$ 40.00	\$16.00
Horses, each	100.00	60.00
Oxen, per yoke	80.00	45.00
Beef, per cwt.	6.00	3.00
Flour, per barrel	11.00	3.50
Pork, per barrel	22.00	8.00

Other articles had been proportionately reduced in price.—*Report of the Illinois and Michigan Canal*, 1844, p. 103.

below the earlier ones, the trustees experienced no difficulty in finding contractors who would undertake the work at less than the estimated cost of completing it.⁸⁶

After the period of abandonment, with the consequent deterioration of the unfinished work, considerable time was consumed in general repairs and preparation for the resumption of the actual work of construction.⁸⁷ The act of February 21, 1843, required the completion of the canal within three years after it should be turned over to the trustees. In spite of delays caused by floods and by an unusual amount of sickness among the laborers, the work was completed in the allotted time and was opened for navigation in April, 1848.

For the next twenty-three years the efforts of the trustees were devoted to building up the traffic of the canal and to the payment of the canal debt. The expenditures on the work before it passed into the hands of the trustees amounted to \$5,039,248.04, of which \$4,674,637.23 had been paid for construction and \$364,610.81 for contingent expenses.⁸⁸ The trustees expended \$1,429,606.21 in completing the canal and constructing feeders to furnish the water supply, rendered necessary by the adoption of the "shallow cut plan" which raised the canal on the Summit level twelve feet above the datum line of Lake Michigan.⁸⁹ But these sums did not comprehend the entire canal debt.⁹⁰ Aside from the outstanding bonds to the amount of \$5,383,000, the debt was composed of interest-bearing canal scrip, non-interest-bearing canal scrip, ninety-day circulating checks, balances due to contractors, damages awarded for in-

⁸⁶ Portions of the work estimated at \$171,700 were let for \$148,100, and feeder contracts estimated at \$141,500 were let for \$133,200.—*Report of the Canal Trustees*, 1847, p. 26.

⁸⁷ *Report of the Canal Trustees*, 1847, p. 26.

⁸⁸ *Eighth Annual Report of the Acting Commissioner of the Illinois and Michigan Canal*, p. 3. Cf. *Report of the Secretary of War*, 1887, Vol. II, Part 3, pp. 2146-48, which gives the expenditures by the commissioners as \$5,133,062.21 and by the trustees as \$1,424,619.29.

⁸⁹ Three feeders were constructed: (1) from the Fox River at Dayton to Ottawa; (2) from the Kankakee River to the Dresden level; (3) from the Calumet River through the "Sag" to the Summit level.

⁹⁰ *Final Report of the Trustees*, 1871, p. 9.

juries sustained by the canal's crossing private property, and accumulated interest.⁹¹

The funds with which to meet the accruing interest on this debt and with which ultimately to liquidate the debt itself were gradually accumulated from the sales of lands, from tolls derived from the operation of the canal, from rents of lands and water power, from interest on the canal funds when deposited with the banks, from interest on the unpaid instalments on the lands sold, and from a few minor sources.⁹²

The burden of the liquidation of the debt was increased, first, by the length of time which elapsed between the beginning of the work and the final payment of the bonds and accounts. The trustees paid \$2,155,622.38 in the discharge of the arrears of interest on the registered bonds, and \$2,457,276.46 may be charged to the operating expenses of the canal while used as a fiscal agent for the payment of the debt.⁹³ Secondly, the burden of the debt was increased by the monetary and banking conditions prevailing in the country during the period of the trust. Between 1848 and 1863, \$14,563.52 was lost through "wild-cat currency," counterfeit bills, and bank failures, and between the former year and 1871 the sum of \$370,864.42 was expended for premiums on gold with which to pay the interest and principal of canal bonds held abroad.⁹⁴

By the close of April, 1871, the entire debt had been liquidated except \$13,000 of the bonds which their holders had failed

⁹¹ *Eighth Annual Report of the Acting Commissioner of the Illinois and Michigan Canal*, pp. 7, 8.

⁹² Some of these minor sources of income were the sale of wood, timber, and stone, the sale of old machinery and implements which the state acquired when it settled with contractors who were forced to abandon their work in 1842-43, the lease of lots, and the advantages occasionally derived from the course of exchange.

⁹³ *Final Report of the Canal Trustees*, 1871, p. 9.

⁹⁴ Prior to 1863 payments on bonds held in London had been made in New York at the rate of exchange at which the best bankers' bills on London could be purchased on the day of payment. This method sufficed so long as gold and paper had the same value in the money market. When the difference between them became material, payments were made in coin.—*Swift's Report to the Creditors*, 1865, p. 7.

to present for payment.⁹⁵ On April 30, the trustees rendered their final report and the trust was dissolved, at which time they turned over to the state a cash balance of \$95,742.41.⁹⁶ In the main, the finances had been well managed during the continuance of the trust. There had passed \$11,009,507.41 through the hands of the trustees with no greater loss than the \$14,563.52 which was lost through bad currency and banking conditions. On the other hand, the funds had been so managed as to yield \$183,303.97 from interest and exchange.

In the end it was found that the anticipation with which the work was undertaken, namely, that the canal lands and revenues would pay the cost of construction, had been well founded. However, because of the length of the period covered by the work of construction and of the acquisition of the funds necessary to defray the expenses incident to the construction and the cost of management and maintenance, the total expenditures had been increased far beyond the expected sum.

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⁹⁵ These bonds are still outstanding and are carried in the auditors' accounts as "called in by the governor's proclamation and not surrendered."—*Illinois Auditor's Report*, 1906, p. vii.

⁹⁶ *Final Report of the Canal Trustees*, 1871, p. 9.